

## CLAIMS:

1. A device for analysis of materials by means of radiation, including  
\* a radiation source (6) for producing the radiation (42),  
\* a sample location (8) for accommodating a sample (10) of the material to be  
analyzed,  
5 \* a position sensitive detection device (9) for detecting the radiation (45)  
emanating from the sample,  
\* which detection device includes  
- an array (42) of radiation sensitive detector elements (44),  
- an electronic read-out circuit (48) which is connected to the detector  
array and includes charge amplifiers (58) in a one-to-one relationship with the detector  
elements (44), the input of said charge amplifiers being connected to a respective one of the  
detector elements,  
characterized in that  
the charge amplifiers (58) are constructed in the integrated bipolar technique, and that the  
electronic read-out circuit (48) includes signal processing circuits (74-82) which are  
connected to the outputs of the charge amplifiers and are constructed in the digital technique.

2. A device as claimed in claim 1, wherein the digital signal processing circuits  
are accommodated on the same substrate as the charge amplifiers.

20 3. A device as claimed in claim 2, wherein the digital signal processing circuits  
are constructed by means of a BICMOS process in the form of the Current Mode Logic  
(CML) technique.

25 4. A device as claimed in one of the preceding claims, wherein the assembly  
formed by the detector array (42) and the electronic read-out circuits (48) is accommodated  
on a common support (55) made of a ceramic material.

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*SAC Uncl.d*

5. A position sensitive detection device for detecting radiation as defined in one of the preceding claims.